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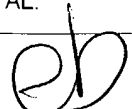
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,702	05/25/2001	Thorbjorn Andersson	027650-930	2294
21839	7590	04/01/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			SIMONE, CATHERINE A	
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1772

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/856,702	Applicant(s) ANDERSSON ET AL.	
	Examiner Catherine Simone	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5 and 9-38 is/are pending in the application.
- 4a) Of the above claim(s) 22-28 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5, 9-21, 29, 30 and 32-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The amendment filed 12/24/03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The recitations "less than 1:1" (claim 10) and "1:1.5" (claims 33 and 38) are deemed new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2-21, 29, 30 and 32-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recitation "less than 1:1" in claim 10 and the recitation "1:1.5" in claims 33 and 38 are deemed new matter. The specification, as originally filed, does not provide support for the invention as is now claimed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2-5, 9-14, 16, 29, 30, 32-35 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (5,500,303) in view of Rolle et al. (WO 97/29150).

Regarding **claims 4, 9, 10, 32 and 33**, Anderson discloses a multilayer structure for packaging comprising an intermediate layer of a foamed polymeric material (Fig. 11, #110) and on each side of the expanded polymer layer, a gas barrier layer (Fig. 11, #20 and #30). However, Anderson fails to disclose the foamed polymeric material being an expanded polymeric material comprising a first rigid component consisting of high melt-strength polypropylene and a second ductile component consisting of a general-purpose grade of polypropylene wherein the expanded polymer has at least about 500 cells/mm³ or 1000 cells/mm³ and the mixing ratio is less than 1:1 and about 1:1.5. Rolle et al. teaches that it is old and well-known in the analogous art to have an expanded polymeric foam material comprising a first rigid component consisting of high melt-strength polypropylene and a second ductile component consisting of general-purpose grade of polypropylene (see page 6, lines 2-6) having at least about 500 cells/mm³ or 1000 cells/mm³ (see page 5, lines 9-11) for the purpose of producing a layer of expanded foam material in a multilayer structure for packaging. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have the foamed polymeric material in Anderson be an expanded polymeric foam material comprising a first rigid component

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consisting of high melt-strength polypropylene and a second ductile component consisting of general-purpose grade of polypropylene, and having at least about 500 cells/mm³ or 1000 cells/mm³ as suggested by Rolle et al. in order to produce a layer of expandable foam material in a multilayer structure for packaging.

Rolle et al. does teach an expanded foam material comprising a first rigid component consisting of high melt-strength polypropylene and a second ductile component consisting of general-purpose grade of polypropylene (see page 6, lines 2-6) having at least about 500 cells/mm³ or 1000 cells/mm³ (see page 5, lines 9-11). However, Rolle et al. fails to teach the mixing ratio of less than 1:1 and about 1:1.5. Rolle et al. does, however, teach a weight percentage of the high melt strength polypropylene as much as possible towards 50% (see page 6, lines 3-5). Therefore, the optimum range for the mixing ratio would be readily determined through routine experimentation by one having ordinary skill in the art depending on the desired end results as shown by Rolle et al. Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the expanded polymeric foam material in Rolle et al. with a mixing ratio of less than 1:1 and about 1:1.5, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art in absence of showing unexpected results. MPEP 2144.05.

Furthermore, Anderson fails to disclose the specific resistance/rigidity of at least 100 mN and the material of the gas barrier layer having a specific oxygen gas permeability of at most about 2000 cm³/m², at 23°C and 0% RH, per 1 µm thickness, during 24 hr. at 1 atm. However, Anderson discloses the calculation of the resistance of the barrier layer (col. 8, lines 66-68), and

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the oxygen gas permeability (col. 2, lines 2-7). Therefore, one of ordinary skill in the art would have recognized that the resistance/rigidity and the oxygen gas permeability are deemed cause effective variables in the multilayer structures as shown by Anderson. Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have optimized the value of a cause effective variable such as resistance/rigidity and oxygen gas permeability in Anderson since Anderson discloses the calculation of the resistance of the barrier layer and the oxygen gas permeability, and further, it has been held that to determine the optimum value of a cause effective variable such as resistance/rigidity and the oxygen gas permeability would be through routine experimentation in the absence of a showing of criticality in the claimed ranges. *In re Boesch*, 205 USPQ 215 (CCPA 1980), *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Regarding **claim 2**, the outermost layers comprise a heat sealable thermoplastic polymer (see col. 15, lines 33-35). Regarding **claim 3**, the expanded polymer layer in its cells and/or open cavities is filled with an anaerobic gas (see col. 14, lines 2-4). Regarding **claim 5**, the expanded layer has cells, which are inherently closed without connection between the cellular cavities. Regarding **claim 11**, the gas barrier layer comprises polyvinylidene chloride (PVDC) (see col. 4, line 66). Regarding **claim 12**, note a homogeneous layer on each side of the expanded polymer layer comprising a polymer selected from a group as recited in claim 12 (see col. 4, lines 65-67 and col. 5, line 1). Regarding **claim 13**, the gas barrier layers on each side of the expanded polymer layer have a thickness and comprise polyamide (see col. 4, lines 52-54 and lines 65-67). Regarding **claim 16**, the gas barrier layer is directly bonded to the expanded polymer layer (see col. 13, lines 39-42). Regarding **claims 29 and 30**, note dimensionally stable packaging container

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manufactured from the multilayer structure (see col. 2, lines 29-32). Regarding **claims 34 and 35**, note the material of the gas barrier layers is polyamide (PA) (see col. 4, lines 65-67).

Regarding **claim 14**, the limitation “in one operation by means of co-extrusion of the layers” is a method of production and therefore does not determine the patentability of the product itself. The method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113.

Regarding **claim 38**, Anderson discloses a multilayer structure for packaging comprising an intermediate layer of a foamed polymeric material (Fig. 11, #110) and on each side of the expanded polymer layer, a gas barrier layer (Fig. 11, #20 and #30). However, Anderson fails to disclose the foamed polymeric material being an expanded polymeric material comprising a first, rigid component consisting of HDPE and a second, ductile component consisting of LDPE wherein the mixing ratio is 1:1.5. Rolle et al. teaches that it is old and well-known in the analogous art to have an expanded polymeric foam material comprising a first rigid component and a second ductile component (see page 6, lines 2-6), but fails to teach the first, rigid component consisting of HDPE and the second, ductile component consisting of LDPE. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the first, rigid component in Rolle et al. to be of HDPE and the second, ductile component in Rolle et al. to be of LDPE, since it had been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice in absence of showing unexpected results. *In re Leshin*, 125 USPQ 416.

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Furthermore, Rolle et al. fails to teach the mixing ratio of 1:1.5. Rolle et al. does, however, teach a weight percentage of the high melt strength polypropylene as much as possible towards 50% (see page 6, lines 3-5). The optimum range for the mixing ratio would be readily determined through routine experimentation by one having ordinary skill in the art depending on the desired end results as shown by Rolle et al. Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the expanded polymeric foam material in Rolle et al. with a mixing ratio of about 1:1.5, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art in absence of showing unexpected results. MPEP 2144.05.

6. **Claims 15, 17, 18, 20, 21, 36 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (5,500,303) in view of Rolle et al. (WO 97/29150) and in further view of Bauer et al. (5,093,164).

Anderson and Rolle et al. disclose the claimed invention, but both fail to disclose a paper layer and a gas barrier layer comprising polyvinyl alcohol (PVOH) and an ethylene acrylic acid copolymer (EAA). Bauer et al. teaches a paper layer (see col. 2, lines 55-57) and a gas barrier layer comprising polyvinyl alcohol (PVOH) and an ethylene acrylic acid copolymer (EAA) (see col. 4, lines 17-20 and col. 5, line 48) in the art for the purpose of forming a multilayer packaging material having good barrier to transmission of one or more gases.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided a paper layer to each side of Anderson's expanded layer as suggested by Bauer et al. and provided the gas barrier layer in Anderson with

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polyvinyl alcohol and an ethylene acrylic acid copolymer (EAA) as suggested by Bauer et al. in order to provide a multilayer packaging material having good barrier to transmission of one or more gases.

Furthermore, Bauer et al. fails to disclose the paper layer having a surface weight of between about 30 g/m² and about 60 g/m². However, Bauer et al. does teach a paper layer having a surface weight of 65 g/m² (see col. 12, line 49). Therefore, one of ordinary skill in the art would have determined the surface weight of the paper layers through routine experimentation depending on the desired end results as shown by Bauer et al. Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have the paper layers in Bauer et al. to have a surface weight of between about 30 g/m² and about 60 g/m², since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art in absence of showing unexpected results. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

Regarding **claim 18**, the limitation "by means of liquid film coating technology" is a method of production and therefore does not determine the patentability of the product itself. The method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113.

7. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (5,500,303) in view of Rolle et al. (WO 97/29150) and in further view of Bauer et al. (5,093,164) and in further view of Kato et al. (5,527,622).

Anderson, Rolle et al. and Bauer et al. disclose the claimed invention except for the gas barrier polymer material comprising a carboxylic acid group. Kato et al. teaches a gas barrier

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polymer material comprising a carboxylic acid group (see col. 2, lines 30-40) in the art for the purpose of providing high heat-sealing strength in a packaging laminate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the gas barrier polymer layer in Bauer et al. with a carboxylic acid group as suggested by Kato et al. in order to provide high heat-sealing strength in a packaging laminate.

Response to Arguments

8. Applicant's arguments filed 12/24/03 have been fully considered but they are not persuasive. Applicants argue that "the high melt-strength polypropylene combined with other types of polypropylene disclosed in Rolle et al. does not have a mixing ratio of the first, rigid polymer component to the second, ductile polymer component less than 1:1. Rolle et al. discloses that although it is advantageous to lower the percentage of high-melt strength polypropylene towards 50 percent by adding other types of polypropylene, Rolle et al. then goes on to disclose the mixture of thermoformable material containing the high melt-strength polypropylene contains polypropylene foam of 60 to 90 percent, preferably 60 to 80 percent high melt-strength polypropylene. See page 6, lines 12-14. Thus, in contrast to applicants' independent claim, Rolle et al. does not disclose lowering the percentage to less than 50 percent." Examiner agrees that Rolle et al. fails to teach a mixing ratio of less than 1:1. However, as shown in the new rejection above, the optimum range for the mixing ratio would be readily determined through routine experimentation by one having ordinary skill in the art depending on the desired end results as shown by Rolle et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the

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expanded polymeric foam material in Rolle et al. with a mixing ratio of less than 1:1, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art in absence of showing unexpected results. MPEP 2144.05.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (571)272-1501. The examiner can normally be reached on 9:30-6:00.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Catherine Simone
Examiner
Art Unit 1772
March 25, 2004



HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

3/29/04